

A REDEFINITION OF *STONEMYIA*
(DIPTERA: TABANIDAE) AND DESIGNATION
OF A NEW GENUS, *PEGASOMYIA*, FROM
WESTERN NORTH AMERICA¹

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The genus *Stonemyia* was erected by Brennan (1935) to receive North American pangoniine species previously assigned primarily to non-Nearctic genera. Brennan placed species with bare eyes in *Stonemyia* s. str. For species with pilose eyes, at least in the male, he proposed the subgenus *Pilimas*. He did not, however, fix a type for *Pilimas* as required by the International Code of Zoological Nomenclature for genus-group names proposed after 1930. *Pilimas*, therefore, was unavailable. *Pilimas* was raised to the generic level by Philip (1941a) and Brennan subsequently (in Philip, 1941b) designated *Diatomineura californica* Bigot as the generotype of *Pilimas* in a note at the end of Philip's paper.

Structurally, both genera are very similar. Authors treating them have used primarily the presence or absence of a spur at the fork of the R_4 and R_5 veins and whether the eyes are bare or pilose. Neither of these characters, however, will absolutely separate these genera. Differences in the male and female genitalia have been used less frequently, perhaps because it is difficult to interpret structural differences observed.

Middlekauff and Lane (1980) summarized the morphological differences between *Stonemyia* and *Pilimas*, but did not mention genitalic differences. In their key, only the presence of the spur vein in *Pilimas* and its absence in *Stonemyia* is used to separate them. However, in their discussion of generic differences, they state that 5% of *Pilimas californica* (sic) lack the spur vein. They also mention that the eyes of *Pilimas* are "slightly" hairy and that those of *Stonemyia* are "practically bare."

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In the most recent key to North American genera, Pechuman and Teskey (1981) used the absence of a spur vein on the fork of the R_4 and R_5 veins, eyes bare in both sexes, the rounded female cerci and projecting process of the male gonostylus to separate *Stonemyia* from *Pilimas*. Except for genitalic differences, these characters will not always reliably separate these genera.

Mackerras (1955) discussed differences in the genitalia of *Stonemyia* and *Pilimas*. In females, *Pilimas* has a prominent apical lobe on the cerci (strongly bilobed in *californicus*) and the caudal ends of spermathecal ducts are membranous and unexpanded, while *Stonemyia* has cerci without an apical lobe and the caudal ends of the spermathecal ducts expanded and sclerotized. The gonostylus of *Stonemyia* has a peculiar outwardly projecting wing that is absent in *Pilimas* males.

The importance of male and female genitalia in generic separation of *Stonemyia* and related genera needs to be re-examined. Because tabanid genitalia are relatively simple and unspecialized, their structural features usually have not been useful for determining relationships below the level of tribe, but such features as are present should be examined critically at the generic level to determine if they can be used reliably to separate closely related genera.

Several years ago, J. R. Vockeroth of the Biosystematics Research Institute, Ottawa, discovered an interesting character in certain species of *Stonemyia* that appears to be unique in Tabanidae: the presence of a row of erect bristles on the ventral surface of the scutellum. I examined the North American species of *Stonemyia* in the collection of the U.S. National Museum and *Stonemyia yezoense* (Shiraki) from Japan and found that both sexes of all species possessed the bristles, although sometimes they were difficult to see because the base of the abdomen was closely appressed to the ventral area of the scutellum.

All other genera of Tabanidae in the USNM collection had the ventral surface of the scutellum bare, except both sexes of *Pilimas californicus*, which had strong bristles on the ventral surface of the scutellum as in *Stonemyia* species. The other two species of *Pilimas* (*P. abaureus* Philip and *P. ruficornis* (Bigot) have the ventral surface of the scutellum bare and also differ from *Stonemyia* species in having the subscutellum conspicuously inflated, whereas in *Stonemyia* it is only slightly enlarged and much less conspicuous. The

shape of the body of *californicus* is similar to the bee-like appearance of the *Stonemyia* species, the abdomen being stouter and more rounded, compared to *Pilimas abaureus* and *ruficornis*, whose abdomens are more slender and more nearly parallel-sided.

I therefore believe that *californicus* was mistakenly placed in the genus *Pilimas* and belongs instead in *Stonemyia*. Since Brennan designated *californicus* as the generotype of *Pilimas*, a new name is needed in which to place *abaureus* and *ruficornis*. **Pegasomyia**, new genus, is hereby proposed and contains these two species. The name is taken from Pegasus, the legendary flying horse of Greek mythology. *Pilimas* becomes a synonym of *Stonemyia*, NEW SYNONYMY. I designate *Corizoneura ruficornis* Bigot, 1892 as the generotype of *Pegasomyia*.

Stonemyia can be unequivocally separated from *Pegasomyia* by the presence of a row of bristles on the ventral surface of the scutellum and the relatively unexpanded subscutellum. *Pegasomyia* contains two western species, *P. abaurea* (Philip) and *P. ruficornis* (Bigot). *Stonemyia* in North America contains three eastern taxa: *isabellina* (Wiedemann), *rasa* (Loew) and *tranquilla tranquilla* (Osten Sacken), and three western taxa: *californica* (Bigot), *tranquilla fera* (Williston) and *velutina* (Bigot).

Six Palaearctic species have been placed in *Stonemyia*: *yezoense* (Shiraki), *enokizonoi* (Ouchi), *hispanica* (Krober), *caucasica* (Krober), *tigris* (Bigot) and *bazini* (Surcouf) (= *chekiangensis* (Ouchi)) (Moucha, 1976; Leclercq and Olsufjev, 1975). *Stonemyia yezoense* is a well-known Japanese species and has bristles beneath the scutellum as do the North American species. *St. caucasica* has well-developed ocelli and could be a *Stonemyia* species but this needs to be confirmed. The type male of *St. enokizonoi*, collected from Yaku Island off the southern coast of Japan, is thought to have been destroyed in Shanghai, China during World War II (Hayakawa, personal communication). It is very close to *St. yezoense* and may be conspecific with it. Study of *hispanica* by Schacht and Portillo (1982) revealed that it is a species of *Philoliche* (*Ommatiosteres*), not *Stonemyia*. Chainey (1983) provided a complete description and discussion of *P. hispanica*. It seems unlikely that *tigris* should be placed in *Stonemyia* since Bigot mentions in his original description that ocelli are absent, whereas they are well-developed in all known *Stonemyia* species. It is possible that *tigris*

may also prove to be a species of *Philoliche*. Moucha (1976) listed *bazini* as a species of *Philoliche*, but this is unlikely since Surcouf (1922) described it as having well-developed ocelli and posterior cells of the wing wide open. Leclercq and Olsufjev (1975) list it in *Stonemyia*, but this should be confirmed by examination.

Thus, in the Palaearctic Region, only *yezoense* has been definitely confirmed as belonging in *Stonemyia*, but *bazini* and *caucasica* may also belong there.

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SUMMARY

Pegasomyia, new genus, is proposed to replace the name *Pilimas*, the generotype of which belongs in the genus *Stonemyia*. *Pegasomyia* contains two California species, *abaurea* (Philip) and *ruficornis* (Bigot), the last of which is designated as generotype of *Pegasomyia*. A row of bristles on the ventral surface of the scutellum of *Stonemyia* species will separate them from *Pegasomyia* species which lack such bristles.

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